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**From:** Wolf, Joel [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=88818C211B5446E1AD11D6C0DCF2A476-WOLF, JOEL]  
**Sent:** 11/6/2020 5:20:16 PM  
**To:** Kathleen Stanton [KStanton@CleaningInstitute.org]; Parsons, Doug [Parsons.Douglas@epa.gov]; sbennett@thehcpa.org; Douglas Troutman [DTroutman@CleaningInstitute.org]; Wheeler, Cindy [Wheeler.Cindy@epa.gov]  
**CC:** Nathan E. Sell [NSell@CleaningInstitute.org]; Kramek, Niva [kramek.niva@epa.gov]  
**Subject:** RE: Exposure Data for Consumer Uses of 1,4-dioxane

Hi Kathy and Steve,

Doug is out, but I wanted to make sure we got back to you. Many thanks for sending this information. We appreciate you gathering it quickly. We'll circle back with any follow-up questions we might have.

Thanks, Joel

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Joel Wolf  
Chief, RMB 1  
OCSPP/OPPT/ECRMD  
US Environmental Protection Agency  
WJC East, Room 4121A  
202.564.0432, wolf.joel@epa.gov

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**From:** Kathleen Stanton <KStanton@CleaningInstitute.org>  
**Sent:** Thursday, November 05, 2020 2:41 PM  
**To:** Parsons, Doug <Parsons.Douglas@epa.gov>; sbennett@thehcpa.org; Douglas Troutman <DTroutman@CleaningInstitute.org>; Wheeler, Cindy <Wheeler.Cindy@epa.gov>  
**Cc:** Nathan E. Sell <NSell@CleaningInstitute.org>; Wolf, Joel <Wolf.Joel@epa.gov>; Kramek, Niva <kramek.niva@epa.gov>  
**Subject:** RE: Exposure Data for Consumer Uses of 1,4-dioxane

Hello Doug,  
HCPA and ACI discussed your inquiry and want to share some measured concentrations of 1,4-dioxane in products and give EPA some insights as to the current and future landscape for the cleaning industry.

The industry is trending towards lower levels of 1,4-dioxane in ethoxylated ingredients and products which contain them. This can be accomplished by reducing levels of 1,4-dioxane from suppliers and/or reducing levels of ingredients containing 1,4-dioxane in the finished product (reformulations). This trend is underway for various reasons. In California, concentrations of 1,4-dioxane are required to be disclosed if greater than 10 ppm per the requirements of the Cleaning Product Right to Know Act of 2017. This information is required to be posted online for any manufacturer of a cleaning product sold in California (dishwasher detergent, dish soap, laundry detergent, and surface cleaners are all within scope) as of 1/1/2020 and the on-label requirement begins 1/1/2021. The applies to both consumer and commercial uses. As of this writing, we are unaware that any companies are meeting that disclosure threshold.

In New York State, there is a ban on products containing 1,4-dioxane (<https://legislation.nysenate.gov/pdf/bills/2019/S4389B>) above 2 ppm (12/31/2022) and 1 ppm (12/31/2023).

We have included for your information, some measured data (see Excel table, 1,4-Dioxane Exposure Assessment). The data and assumptions in the first tab are for commercial applications. This information is in addition to the consumer information sent previously. The second tab's Independent Lab measurements are based on a methodology to measure

1,4-dioxane in complex matrices, such as cleaning products, that is under development and validation. The measurements by Company D are on the same formulations with a slightly different method. The formulas for the test samples can be found in the other attached spreadsheet.

Please let us know how we can continue to support EPA's efforts,  
Steven and Kathy

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**From:** Parsons, Doug <[Parsons.Douglas@epa.gov](mailto:Parsons.Douglas@epa.gov)>

**Sent:** Wednesday, October 28, 2020 8:57 AM

**To:** [sbennett@thehcpa.org](mailto:sbennett@thehcpa.org); Douglas Troutman <[DTroutman@CleaningInstitute.org](mailto:DTroutman@CleaningInstitute.org)>; Wheeler, Cindy <[Wheeler.Cindy@epa.gov](mailto:Wheeler.Cindy@epa.gov)>

**Cc:** Kathleen Stanton <[KStanton@CleaningInstitute.org](mailto:KStanton@CleaningInstitute.org)>; Nathan E. Sell <[NSell@CleaningInstitute.org](mailto:NSell@CleaningInstitute.org)>; Wolf, Joel <[Wolf.Joel@epa.gov](mailto:Wolf.Joel@epa.gov)>; Kramek, Niva <[kramek.niva@epa.gov](mailto:kramek.niva@epa.gov)>

**Subject:** RE: Exposure Data for Consumer Uses of 1,4-dioxane

[EXTERNAL SENDER]

Good morning Steve

Thanks again for all your work on 1,4-dioxane. Can you provide an update on the possibility of submitting additional data on levels of 1,4-dioxane in ingredients and finished products. Any sense of timing for this additional data would be useful.

doug

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**From:** Parsons, Doug

**Sent:** Friday, October 23, 2020 1:29 PM

**To:** Steven D. Bennett <[sbennett@thehcpa.org](mailto:sbennett@thehcpa.org)>; Douglas Troutman <[DTroutman@CleaningInstitute.org](mailto:DTroutman@CleaningInstitute.org)>; Wheeler, Cindy <[Wheeler.Cindy@epa.gov](mailto:Wheeler.Cindy@epa.gov)>

**Cc:** Kathleen Stanton <[KStanton@CleaningInstitute.org](mailto:KStanton@CleaningInstitute.org)>; Nathan E. Sell <[NSell@CleaningInstitute.org](mailto:NSell@CleaningInstitute.org)>

**Subject:** RE: Exposure Data for Consumer Uses of 1,4-dioxane

Steve

As discussed yesterday, if manufacturers or processors have data on the levels of 1,4-dioxane in either raw ingredients or finished products, the agency would be interested in receiving that data. If HCPA would like to submit it without reference to a specific company, e.g. Company A, Company B, we would be acceptable.

Please let us know if there are further questions. And thanks again for all the work on this.

doug

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**From:** Steven D. Bennett <[sbennett@thehcpa.org](mailto:sbennett@thehcpa.org)>

**Sent:** Thursday, October 22, 2020 10:55 AM

**To:** Parsons, Doug <[Parsons.Douglas@epa.gov](mailto:Parsons.Douglas@epa.gov)>; Douglas Troutman <[DTroutman@CleaningInstitute.org](mailto:DTroutman@CleaningInstitute.org)>; Wheeler, Cindy <[Wheeler.Cindy@epa.gov](mailto:Wheeler.Cindy@epa.gov)>

**Cc:** Kathleen Stanton <[KStanton@CleaningInstitute.org](mailto:KStanton@CleaningInstitute.org)>; Nathan E. Sell <[NSell@CleaningInstitute.org](mailto:NSell@CleaningInstitute.org)>

**Subject:** RE: Exposure Data for Consumer Uses of 1,4-dioxane

Doug,

Still awaiting additional feedback on several of the questions but I wanted to provide some input to possibly assist.

One suggestion for handwashing is some recent and authoritative data were developed to support the RIFM is the Crème aggregate exposure model (see Comiskey et al., 2017) (attached)

There was also a suggestion to refer to the EPA Exposure Factors Handbook (Tables 16-37, 16-38, 17-12, 17-37) and associated references that are relevant (I expect these to already be incorporated in risk evaluation but were not explicitly noted in DRE)

Handwashing:

- European Commission SCCS Notes of Guidance (see Tables 3 and 4)  
[https://ec.europa.eu/health/sites/health/files/scientific\\_committees/consumer\\_safety/docs/sccs\\_o\\_24.pdf](https://ec.europa.eu/health/sites/health/files/scientific_committees/consumer_safety/docs/sccs_o_24.pdf)

Manual Dishwashing

- European Union AISE (2015) Table of Habits and Practices for Consumer Products in Western Europe, [https://www.aise.eu/documents/document/20150602150650-aise\\_sceds\\_supportingexplanation\\_document\\_may2015\\_v1.pdf](https://www.aise.eu/documents/document/20150602150650-aise_sceds_supportingexplanation_document_may2015_v1.pdf)
- WHO EHC 242 on Dermal Exposure, [https://www.who.int/ipcs/publications/ehc/ehc\\_242.pdf](https://www.who.int/ipcs/publications/ehc/ehc_242.pdf)
- Weegels ME & van Veen MP (2001) Variation of consumer contact with household products: a preliminary investigation. Risk Anal **21**(3):499–511.

**Steven Bennett, Ph.D.**

*Senior Vice President, Scientific & Regulatory Affairs*

*Floor Care Division Staff Executive*

*Pest Management Products Division Staff Executive*

*HCPA Consumer Product Ingredients Dictionary*

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**From:** Parsons, Doug <[Parsons.Douglas@epa.gov](mailto:Parsons.Douglas@epa.gov)>

**Sent:** Tuesday, October 20, 2020 10:28 AM

**To:** Douglas Troutman <[DTTroutman@CleaningInstitute.org](mailto:DTTroutman@CleaningInstitute.org)>; Steven D. Bennett <[sbennett@thehcpa.org](mailto:sbennett@thehcpa.org)>; Wheeler, Cindy <[Wheeler.Cindy@epa.gov](mailto:Wheeler.Cindy@epa.gov)>

**Cc:** Kathleen Stanton <[KStanton@CleaningInstitute.org](mailto:KStanton@CleaningInstitute.org)>; Nathan E. Sell <[NSell@CleaningInstitute.org](mailto:NSell@CleaningInstitute.org)>

**Subject:** Exposure Data for Consumer Uses of 1,4-dioxane

Hello Kathleen, Steve, Doug, and Nathan

Thanks again for all the information to date. We are continuing to deliberate on 1,4-dioxane as part of the final risk evaluation under TSCA.

We have a few questions that are pasted below regarding consumer exposure scenarios for surface cleaners, dish soap, dishwashing detergent and laundry detergent.

Can you please take a look and let us know if you have answers to these questions, and if so, we would be very interested in obtaining the information as soon as possible. We are also glad to organize a call if that would be useful. Please let us know.

Thanks, doug

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1. Do you have any existing measured concentration levels or known concentration ranges of 1,4-dioxane in finished consumer products, specifically dishwasher detergent, dish soap, laundry detergent, and surface cleaners?
2. Do you have any existing survey or other data on specific product types (e.g., detergents, cleaners, dish soap) that can be used to inform duration or frequency of cleaning or washing activities?
3. Do you have any existing survey or other data on specific product types (e.g., detergents, cleaners, dish soap) that can be used to inform the amount of product used per day or per activity and/or the level of dilution typical for products used in hand washing activities?

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